Avian Influenza and Pandemic Influenza Presentation Guide

Welcome to the Avian Influenza and Pandemic Influenza Presentation Guide!

Today through the news media and other sources of information, people are hearing and recognizing words such as, *pandemic influenza* and *avian influenza*. However, do they really understand the difference between the two? Do they know how avian and pandemic influenzas are spread? Are they familiar with simple ways to prepare for a influenza pandemic? To help answer these questions and more the Montgomery County, Maryland Advanced Practice Center for Public Health Emergency Preparedness and Response (Montgomery APC) has developed and made available a simple Microsoft PowerPoint presentation, with speaker notes, that can help local public health agencies and other organizations educate their communities about pandemic and avian influenza.

This presentation guide provides copies of the PowerPoint presentation, handouts, pre/post tests, evaluation, suggested interactive activities, and also includes general tips for presenters. The target audiences of the PowerPoint presentation are persons who wish to increase their knowledge and awareness of pandemic and avian influenzas. The presentation and materials have been pilot tested with community groups, churches, and civic organizations in Montgomery County, Maryland. The guide is intended to be a manual for the presenter of the presentation, and to serve as a resource for persons needing materials for presentations on avian influenza and pandemic influenza to the general public.

All of the materials are available online to download at: www.montgomerycountymd.gov/apc. Many of the resources and publications used in the presentation and the handouts are from existing documents developed by the Centers for Disease Control and Prevention, the United State Department of Agriculture, the World Health Organization, and other reputable sources.

Please feel free to make modifications to the presentation based upon new and accurate information that has become available to the public and to include local specific information. Also, please continue to check the Montgomery County APC website for the most current version of the PowerPoint presentation.

This entire guide, as well as, the presentation are included online at: www.montgomerycountymd.gov/apc

Included in the Guide:

- PowerPoint presentation with speaker notes
    - Defines what Avian Influenza and Pandemic Influenza means
    - How the flu spreads and current prevention methods
    - The differences between Avian Flu, Pandemic Flu and Seasonal Flu
    - How to prepare for a Pandemic Influenza
- Copies of the handouts
    - PowerPoint Presentation in handout format (3 slides to a page with notes section)
    - CDC's Fact sheet on *Avian Influenza* (Bird Flu)
    - Plan to Be Safe Campaign Materials (Pamphlet and Tri-fold)
    - Stop Germs, Stay Healthy!
    - Cover your Cough
    - Checklist for Individuals and Families
    - Family Emergency Health Information Sheet
- Pre/Post Tests
    - Give the Pre-test prior to the presentation and reinforce that this is not a test but more of an assessment to determine a baseline of knowledge. The Post-test can be either answered individually or as a group.
- Evaluation
    - Give to participants after the presentation. Ask participants to answer the questions individually or answer them as a group with someone taking notes.
- Interactive Activities
    - A list of several activities that can be interjected into the presentation at the pre-determined slides. These activities reinforce material that is presented throughout the presentation.

Tips for Presenters:

If you are the person who is going to present on the topics of Avian Influenza and Pandemic Influenza here are some general tips to keep in mind:

- **Arrive Early:** Giving yourself an extra 15-20 minutes before the start of your presentation is a good idea. This time allows you to set up your presentation how you would like, become comfortable with the technology you will be using and also to make any last minute changes to the presentation.

  It is also a good idea to run through the presentation once to make sure the presentation is correct and technology is working. Technology at different sites will be different. Be prepared to work with any type of technology or if you want and are able, bring your own. Ask ahead of time to see if this is okay with the facility you will be speaking at.

- **Have a Back Up Plan:** Many times presentations (especially those that rely on technology) can go awry. Make sure you have hardcopy handouts of your presentation for people to follow along. A great presentation is not made up of the handouts or technology; it is support for the content of the presentation and the presenter.

- **Be Prepared for Tough Questions:** The content of this presentation will hopefully prepare you for presenting a general presentation on the topic of Avian Influenza and Pandemic Influenza. However, there will many questions that will result from this presentation. This will reflect on the audience you are speaking to.

  Do research and find out who your audience is going to be. For example, if you are speaking to a senior citizen group there may be a lot of questions concerning medications.

  Also, do research on information about these topics to enhance this presentation. Do not feel that you should know the answer to every question, but when one is asked that you don't know the answer, tell that person you will find out and get back to them.

- **PRACTICE!!** Practicing a presentation at least one time can make you feel more comfortable presenting on the topic. Practicing more than once will give a greater sense of confidence as a presenter. Being able to anticipate what point to make next in the presentation is key.

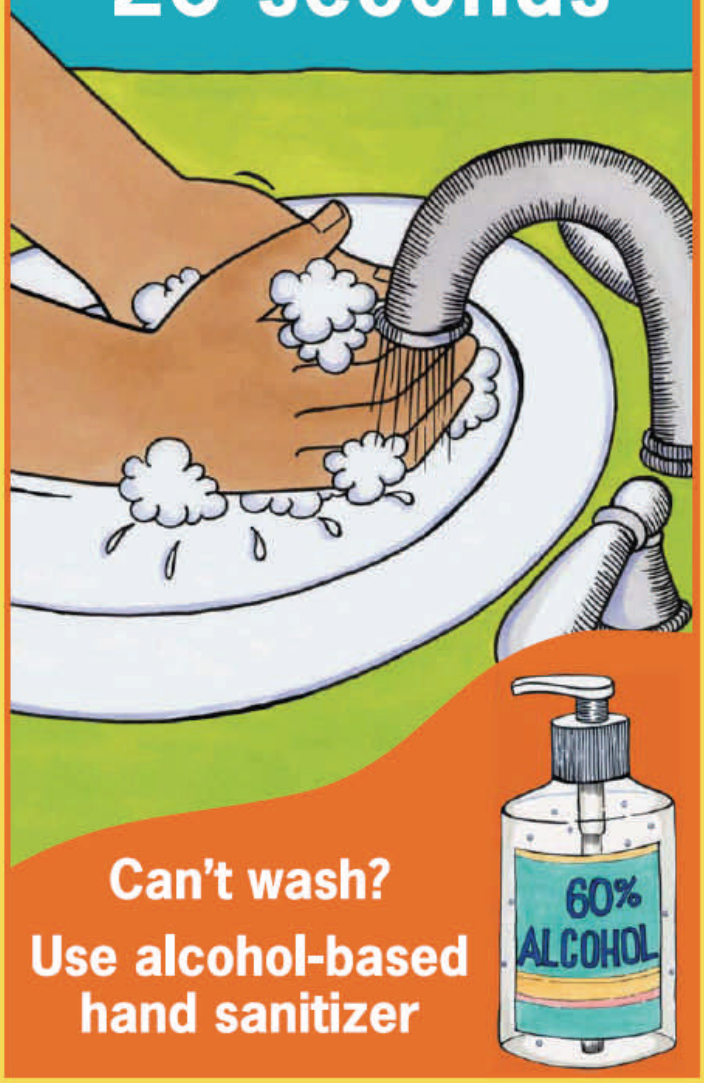
  Again, technology is only support for your presentation. Make sure you have gone over your notes, written some key points to address and are comfortable with the material you are presenting. Anticipate technical glitches, but having a practiced presentation will alleviate nerves when problems arise.

Suggested Handouts

The handouts gathered are from different sources including, Seattle-King County Public Health Department, CDC and PandemicFlu.gov or AvianFlu.gov. The selected handouts reinforce the information presented in the presentation. The handouts span the topics of good personal and social hygiene etiquette to general facts about Avian Influenza. Please take time to read over these handouts for your own research and if you are using the powerpoint for a presentation these are the handouts recommended for use.

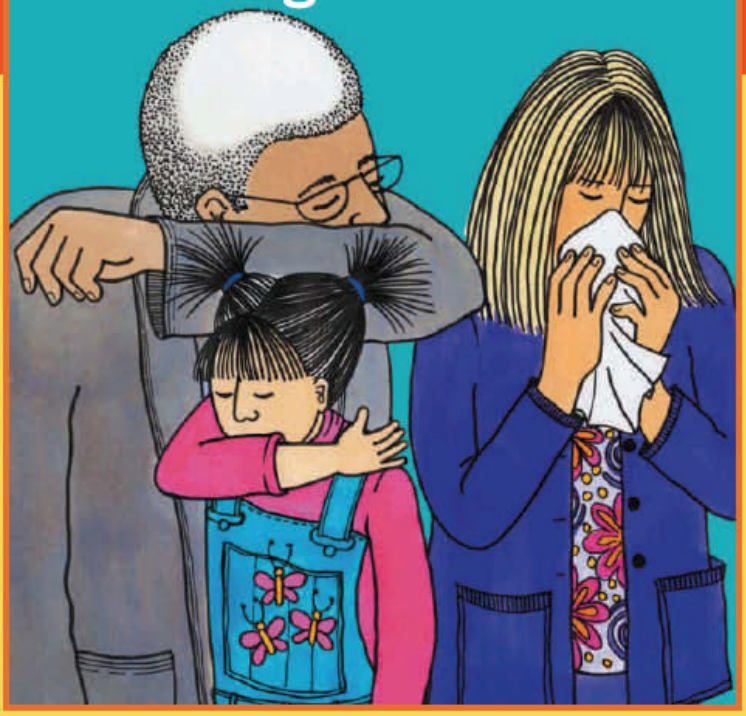
Stop Germs, Stay Healthy!

Wash hands often for 20 seconds



Can't wash?
Use alcohol-based hand sanitizer

Cover coughs and sneezes



When sick, stay home

¡Detenga los gérmenes, manténgase saludable!

- Lávese las manos frecuentemente por 20 segundos
- Use gel a base de alcohol, si no se puede lavar las manos
- Cubra su boca al toser y estornudar
- Quédese en casa cuando esté enfermo

For more information, please call
240-777-1050

MONTGOMERY COUNTY
17 76
MARYLAND

FACT SHEET

Key Facts About Avian Influenza (Bird Flu) and Avian Influenza A (H5N1) Virus

This fact sheet provides general information about avian influenza (bird flu) and information about one type of bird flu, called avian influenza A (H5N1), that has caused infections in birds and in humans. Also see Questions and Answers (http://www.cdc.gov/flu/avian/gen-info/qa.htm) on the CDC website and Frequently Asked Questions (FAQs) http://www.who.int/csr/disease/avian_influenza/avian_faqs/en/index.html) on the World Health Organization (WHO) website.

Avian Influenza (Bird Flu)

Avian influenza in birds

Avian influenza is an infection caused by avian (bird) influenza (flu) viruses. These influenza viruses occur naturally among birds. Wild birds worldwide carry the viruses in their intestines, but usually do not get sick from them. However, avian influenza is very contagious among birds and can make some domesticated birds, including chickens, ducks, and turkeys, very sick and kill them.

Infected birds shed influenza virus in their saliva, nasal secretions, and feces. Susceptible birds become infected when they have contact with contaminated secretions or excretions or with surfaces that are contaminated with secretions or excretions from infected birds. Domesticated birds may become infected with avian influenza virus through direct contact with infected waterfowl or other infected poultry, or through contact with surfaces (such as dirt or cages) or materials (such as water or feed) that have been contaminated with the virus.

Infection with avian influenza viruses in domestic poultry causes two main forms of disease that are distinguished by low and high extremes of virulence. The "low pathogenic" form may go undetected and usually causes only mild symptoms (such as ruffled feathers and a drop in egg production). However, the highly pathogenic form spreads more rapidly through flocks of poultry. This form may cause disease that affects multiple internal organs and has a mortality rate that can reach 90-100% often within 48 hours.

Human infection with avian influenza viruses

There are many different subtypes of type A influenza viruses. These subtypes differ because of changes in certain proteins on the surface of the influenza A virus (hemagglutinin [HA] and neuraminidase [NA] proteins). There are 16 known HA subtypes and 9 known NA subtypes of influenza A viruses. Many different combinations of HA and NA proteins are possible. Each combination represents a different subtype. All known subtypes of influenza A viruses can be found in birds.

Usually, "avian influenza virus" refers to influenza A viruses found chiefly in birds, but infections with these viruses can occur in humans. The risk from avian influenza is generally low to most people, because the viruses do not usually infect humans. However, confirmed cases of human infection from several subtypes of avian influenza infection have been reported since 1997. Most cases of avian influenza

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infection in humans have resulted from contact with infected poultry (e.g., domesticated chicken, ducks, and turkeys) or surfaces contaminated with secretion/excretions from infected birds. The spread of avian influenza viruses from one ill person to another has been reported very rarely, and transmission has not been observed to continue beyond one person.

"Human influenza virus" usually refers to those subtypes that spread widely among humans. There are only three known A subtypes of influenza viruses (H1N1, H1N2, and H3N2) currently circulating among humans. It is likely that some genetic parts of current human influenza A viruses came from birds originally. Influenza A viruses are constantly changing, and they might adapt over time to infect and spread among humans.

During an outbreak of avian influenza among poultry, there is a possible risk to people who have contact with infected birds or surfaces that have been contaminated with secretions or excretions from infected birds.

Symptoms of avian influenza in humans have ranged from typical human influenza-like symptoms (e.g., fever, cough, sore throat, and muscle aches) to eye infections, pneumonia, severe respiratory diseases (such as acute respiratory distress), and other severe and life-threatening complications. The symptoms of avian influenza may depend on which virus caused the infection.

Studies done in laboratories suggest that some of the prescription medicines approved in the United States for human influenza viruses should work in treating avian influenza infection in humans. However, influenza viruses can become resistant to these drugs, so these medications may not always work. Additional studies are needed to demonstrate the effectiveness of these medicines.

Avian Influenza A (H5N1)

Influenza A (H5N1) virus – also called "H5N1 virus" – is an influenza A virus subtype that occurs mainly in birds, is highly contagious among birds, and can be deadly to them. H5N1 virus does not usually infect people, but infections with these viruses have occurred in humans. Most of these cases have resulted from people having direct or close contact with H5N1-infected poultry or H5N1-contaminated surfaces.

Avian influenza A (H5N1) outbreaks

For current information about avian influenza A (H5N1) outbreaks, see our Outbreaks (http://www.cdc.gov/flu/avian/outbreaks/)page.

Human health risks during the H5N1 outbreak

Of the few avian influenza viruses that have crossed the species barrier to infect humans, H5N1 has caused the largest number of detected cases of severe disease and death in humans. However, it is possible that those cases in the most severely ill people are more likely to be diagnosed and reported, while milder cases go unreported. For the most current information about avian influenza and cumulative case numbers, see the World Health Organization (WHO) avian influenza website (http://www.who.int/csr/disease/avian_influenza/en/).

Of the human cases associated with the ongoing H5N1 outbreaks in poultry and wild birds in Asia and parts of Europe, the Near East and Africa, more than half of those people reported infected with the virus have died. Most cases have occurred in previously healthy children and young adults and have resulted from direct or close contact with H5N1-infected poultry or H5N1-contaminated surfaces. In general, H5N1

remains a very rare disease in people. The H5N1 virus does not infect humans easily, and if a person is infected, it is very difficult for the virus to spread to another person.

While there has been some human-to-human spread of H5N1, it has been limited, inefficient and unsustained. For example, in 2004 in Thailand, probable human-to-human spread in a family resulting from prolonged and very close contact between an ill child and her mother was reported. Most recently, in June 2006, WHO reported evidence of human-to-human spread in Indonesia. In this situation, 8 people in one family were infected. The first family member is thought to have become ill through contact with infected poultry. This person then infected six family members. One of those six people (a child) then infected another family member (his father). No further spread outside of the exposed family was documented or suspected.

Nonetheless, because all influenza viruses have the ability to change, scientists are concerned that H5N1 virus one day could be able to infect humans and spread easily from one person to another. Because these viruses do not commonly infect humans, there is little or no immune protection against them in the human population. If H5N1 virus were to gain the capacity to spread easily from person to person, an influenza pandemic (worldwide outbreak of disease) could begin. For more information about influenza pandemics, see PandemicFlu.gov (http://www.pandemicflu.gov/).

No one can predict when a pandemic might occur. However, experts from around the world are watching the H5N1 situation in Asia and Europe very closely and are preparing for the possibility that the virus may begin to spread more easily and widely from person to person.

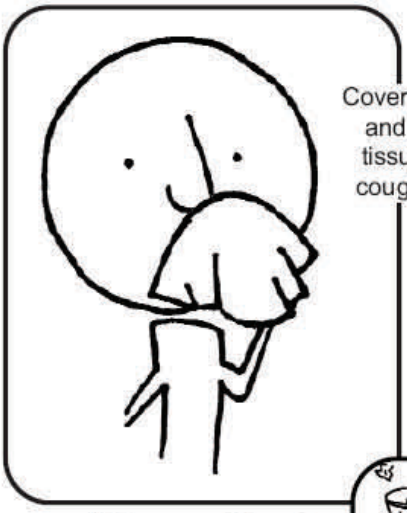
Treatment and vaccination for H5N1 virus in humans

The H5N1 virus that has caused human illness and death in Asia is resistant to amantadine and rimantadine, two antiviral medications commonly used for influenza. Two other antiviral medications, oseltamavir and zanamavir, would probably work to treat influenza caused by H5N1 virus, but additional studies still need to be done to demonstrate their effectiveness.

There currently is no commercially available vaccine to protect humans against H5N1 virus that is being seen in Asia and Europe. However, vaccine development efforts are taking place. Research studies to test a vaccine to protect humans against H5N1 virus began in April 2005, and a series of clinical trials is under way. For more information about H5N1 vaccine development process, visit the National Institutes of Health website (http://www3.niaid.nih.gov/news/newsreleases/2005/avianfluvax.htm).

Stop the spread of germs that make you and others sick!

Cover your Cough



Cover your mouth and nose with a tissue when you cough or sneeze *or* cough or sneeze into your upper sleeve, not your hands.

Put your used tissue in the waste basket.

You may be asked to put on a surgical mask to protect others.

Clean your Hands

after coughing or sneezing.

Wash hands with soap and warm water for 20 seconds *or* clean with alcohol-based hand cleaner.

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Minnesota Antibiotic Resistance Collaborative

APIC

Pandemic Flu Planning Checklist for Individuals & Families

You can prepare for an influenza pandemic now. You should know both the magnitude of what can happen during a pandemic outbreak and what actions you can take to help lessen the impact of an influenza pandemic on you and your family. This checklist will help you gather the information and resources you may need in case of a flu pandemic.

1. To plan for a pandemic:

- ❑ Store a two week supply of water and food. During a pandemic, if you cannot get to a store, or if stores are out of supplies, it will be important for you to have extra supplies on hand. This can be useful in other types of emergencies, such as power outages and disasters.
- ❑ Periodically check your regular prescription drugs to ensure a continuous supply in your home.
- ❑ Have nonprescription drugs and other health supplies on hand, including pain relievers, stomach remedies, cough and cold medicines, fluids with electrolytes, and vitamins.
- ❑ Talk with family members and loved ones about how they would be cared for if they got sick, or what will be needed to care for them in your home.
- ❑ Volunteer with local groups to prepare and assist with emergency response.
- ❑ Get involved in your community as it works to prepare for an influenza pandemic.

2. To limit the spread of germs and prevent infection:

- ❑ Teach your children to wash hands frequently with soap and water, and model the current behavior.
- ❑ Teach your children to cover coughs and sneezes with tissues, and be sure to model that behavior.
- ❑ Teach your children to stay away from others as much as possible if they are sick. Stay home from work and school if sick.

3. Items to have on hand for an extended stay at home:

Examples of food and non-perishables	Examples of medical, health, and emergency supplies
❑ Ready-to-eat canned meats, fish, fruits, vegetables, beans, and soups	❑ Prescribed medical supplies such as glucose and blood-pressure monitoring equipment
❑ Protein or fruit bars	❑ Soap and water, or alcohol-based (60-95%) hand wash
❑ Dry cereal or granola	❑ Medicines for fever, such as acetaminophen or ibuprofen
❑ Peanut butter or nuts	❑ Thermometer
❑ Dried Fruit	❑ Anti-diarrheal medication
❑ Crackers	❑ Vitamins
❑ Canned juices	❑ Fluids with electrolytes
❑ Bottled water	❑ Cleansing agent/soap
❑ Canned or jarred baby food and formula	❑ Flashlight
❑ Pet food	❑ Batteries
❑ Other nonperishable foods	❑ Portable radio
	❑ Manual can opener
	❑ Garbage bags
	❑ Tissues, toilet paper, disposable diapers

Family Emergency Health Information Sheet

It is important to think about health issues that could arise if an influenza pandemic occurs, and how they could affect you and your loved ones. For example, if a mass vaccination clinic is set up in your community, you may need to provide as much information as you can about your medical history when you go, especially if you have a serious health condition or allergy.

Create a family emergency health plan using this information. Fill in information for each family member in the space provided. Like much of the planning for a pandemic, this can also help prepare for other emergencies.

1. Family Member Information:

Family Member	Blood Type	Allergies	Past/Current Medical Conditions	Current Medications/ Dosages

2. Emergency Contacts:

Contacts		Name/Phone Number
Local personal emergency contact		
Out-of-town personal emergency contact		
Hospitals near:	Work	
	School	
	Home	
Family physician(s)		
State public health department (See list on www.pandemicflu.gov/state/statecontacts.html)		
Pharmacy		
Employer contact and emergency information		
School contact and emergency information		
Religious/spiritual organization		
Veterinarian		

Pretest/Post test and Evaluation

The pretest and post test are designed to show an increase in awareness and knowledge based upon the presentation given. If you are going to conduct the test make sure to give out the pretest prior to beginning your presentation. Following the presentation hand out the post test to see the change in knowledge by the audience. Both pretest and post test are the exact same questions. Reassure audience members that this test is only for you, as the presenter to see how well information is relayed and understood.

The evaluation component of the presentation is meant to enhance the presenter as well as the presentation content. If you are interested as a presenter in receiving feedback on your presentation please use at your discretion.

AVIAN INFLUENZA AND PANDEMIC INFLUENZA PRESENTATION

Pretest/Post test

Thank you for participating in the *Avian Influenza and Pandemic Influenza Presentation*. Please answer the below questions to the best of your knowledge. The answers will not be shared with others and will only be used to help improve the *Avian Influenza and Pandemic Influenza Presentation*.

Thank you again for your participation!

Please circle the correct answer:

1. Avian flu occurs naturally in:

a. humans
b. birds
c. dogs
d. cats
e. none of the above

2. What is a human influenza (flu) pandemic?

a. an flu virus that can transmit between birds
b. an flu virus that affects humans only in one country
c. an flu virus that can transfer easily between people world-wide
d. the avian flu
e. none of the above

3. How could a pandemic influenza (flu) spread from human to human?

a. shaking hands with someone who is infected
b. droplets (coughing, sneezing, or talking)
c. touching a dog or cat
d. both A and B
e. none of the above

4. What can we do to reduce the spread of the flu?

a. minimize contact with others
b. wash your hands
c. use cough etiquette
d. keep hydrated
e. all of the above

5. Seasonal influenza:

a. occurs annually
b. occurs rarely
c. could be a risk for healthy adults
d. is a worldwide outbreak of a new human influenza virus
e. none of the above

6. The components of the Plan to Be Safe Campaign are:

a. start a conversation
b. make a plan
c. make a kit
d. a, b, and c
e. none of the above

7. The key items in a Plan 9 kit include all of the following except:

a. flashlight
b. water
c. food
d. a plant
e. radio

Please circle one answer after each question)

11. I feel I understand the differences between avian, pandemic, and seasonal flu.
Strongly agree Agree Neutral Disagree Strongly disagree

12. I feel I am not at risk for avian flu.
Strongly agree Agree Neutral Disagree Strongly disagree

13. When I hear the term *pandemic flu,* I do not panic.
Strongly agree Agree Neutral Disagree Strongly disagree

14. I am confident that I can prepare myself for a pandemic flu.
Strongly agree Agree Neutral Disagree Strongly disagree

15. I am confident that I can help prepare my family and friends for a pandemic flu.
Strongly agree Agree Neutral Disagree Strongly disagree

Thank You!

AVIAN INFLUENZA AND PANDEMIC INFLUENZA PRESENTATION

Presentation Evaluation

Please answer the following questions about the presentation to the best of your knowledge:

1. What was your overall impression of the presentation?

2. Was the speaker well organized?

3. Were the materials and information presented in the presentation useful?

4. What did you like best about the presentation?

5. What did you like least?

6. What other suggestions for improvement to the presentation do you have?

Thank you for your participation!

Interactive Activities

The following activities reinforce concepts that are addressed throughout the presentation. There are designated slides at which these activities can be introduced, however, please adjust according to your presentation.

AVIAN INFLUENZA AND PANDEMIC INFLUENZA PRESENTATION

Suggested Interactive Activities

Because many people learn differently, it is important in developing a presentation that incorporates different learning styles. People learn by listening, speaking, reading, writing and adult learners in particular need to be able to relate it to their everyday activities. Below is a list of suggested interactive activities to include in the presentation and can help the participant relate to the topic being discussed.

"Infectious" Activity

Place a red dot underneath a chair prior to the presentation. During the presentation ask people to look underneath their chairs for a red dot. Then once the person is identified as having a red dot, explain that at least people within three feet of the "infected" person could possibly have influenza.

A Day in the Life of…

Have participants name the many different ways they could transmit influenza (or any virus) in a typical day at work if they were to come to work sick. Participants could name surfaces (i.e., door handles, elevator buttons, keyboards, phones, etc.) or could use specific situations or behaviors (i.e., didn't cover their cough, didn't wash their hands, etc.). Then brainstorm ideas of how to prevent infection (i.e., cleaning surfaces regularly, if sick do not share workstations, cover your cough, etc.). The objective of this activity is to get people thinking about the many different ways one could transmit the flu to others and how changing or modifying behavior now, could prevent the spread in the future.

Three Foot Ruler

Use a three foot ruler (or tape measure) to demonstrate safe social distancing from someone who is infected or may be infected with the flu.

Power Point Presentation

with speaker notes

The following pages are the slides that create the power point presentation that is included in this guide. The presentation layout has been set up so that speaker notes are available for use if desired. If you are conducting this as a self-study, the speaker notes provide detailed information and insight on the presentation.

*The PowerPoint presentation requires Microsoft PowerPoint 2000 or later to function. Older versions of PowerPoint may have limited capabilities.

Avian Influenza and Pandemic Influenza

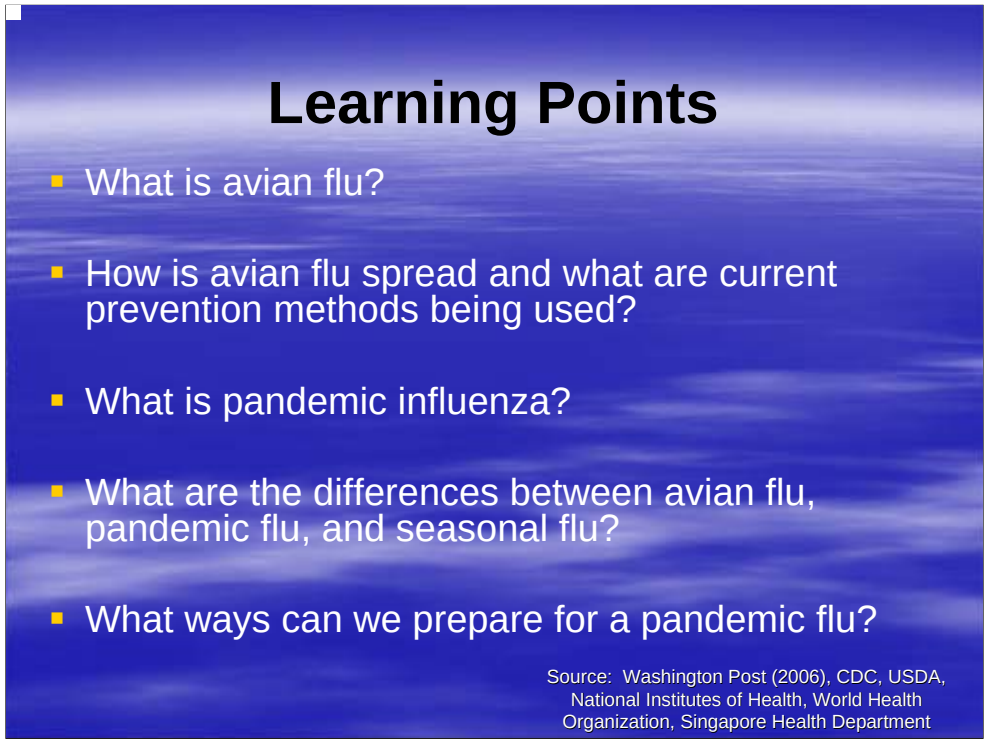
Montgomery County, Maryland Department of Health and Human Services

Public Health Services

Emergency Preparedness and Response Program

June 2007

Today, Avian Flu has become a major concern among health officials and Montgomery County. Currently, the disease has appeared mostly in wild birds and poultry with occasional cases of people becoming infected. However, if the virus mutates it could begin to spread between humans more readily, which could result in a flu pandemic. This is why it is so important for everyone to become prepared.

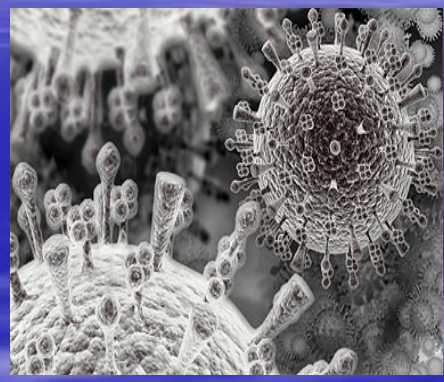


During this presentation the we will cover:

- What is avian flu?
- How is avian flu spread and current prevention methods being used?
- What is pandemic influenza?
- What are the differences between avian flu, pandemic flu, and seasonal flu?
- What ways can we prepare for a pandemic flu?

What is “Avian Flu”?

- H5N1-One strain of hundreds of types of virus strains affecting birds
- Many wild birds have flu viruses already, some mix and exchange viruses creating new strains
- H5N1 strain rapidly kills domestic poultry and some species of wild birds



Source: Washington Post (2006), CDC, USDA, National Institutes of Health, World Health Organization, Singapore Health Department

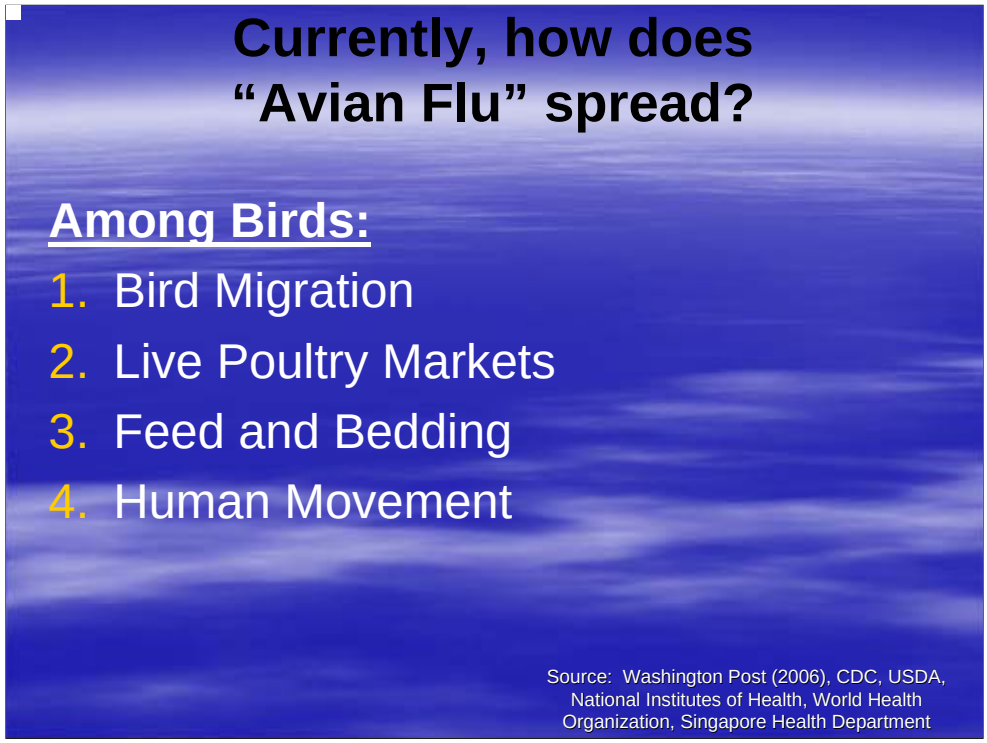
Avian flu occurs naturally among birds. There are numerous strains of viruses causing flu pandemics among birds, some that have hardly any effect while others can cause significant death among birds. The strains that scientists are focused on, such as H5N1, are the group of viruses that are highly contagious and cause death in wild birds and poultry. This H5N1 virus can be transmitted from birds to humans and currently there is no human immunity or vaccine.

Where did H5N1 "Avian Flu" start?

- China-1996 was the first outbreak amongst humans
- 1997-killed 6 people

Source: Washington Post (2006), CDC, USDA, National Institutes of Health, World Health Organization, Singapore Health Department

The first known outbreak of H5N1 in humans was in China in 1996. The following year, 1997, the same virus claimed 6 lives. Currently there are no cases in the United States. As of May 31, 2007 there have been 309 cases and 187 deaths since 2003.



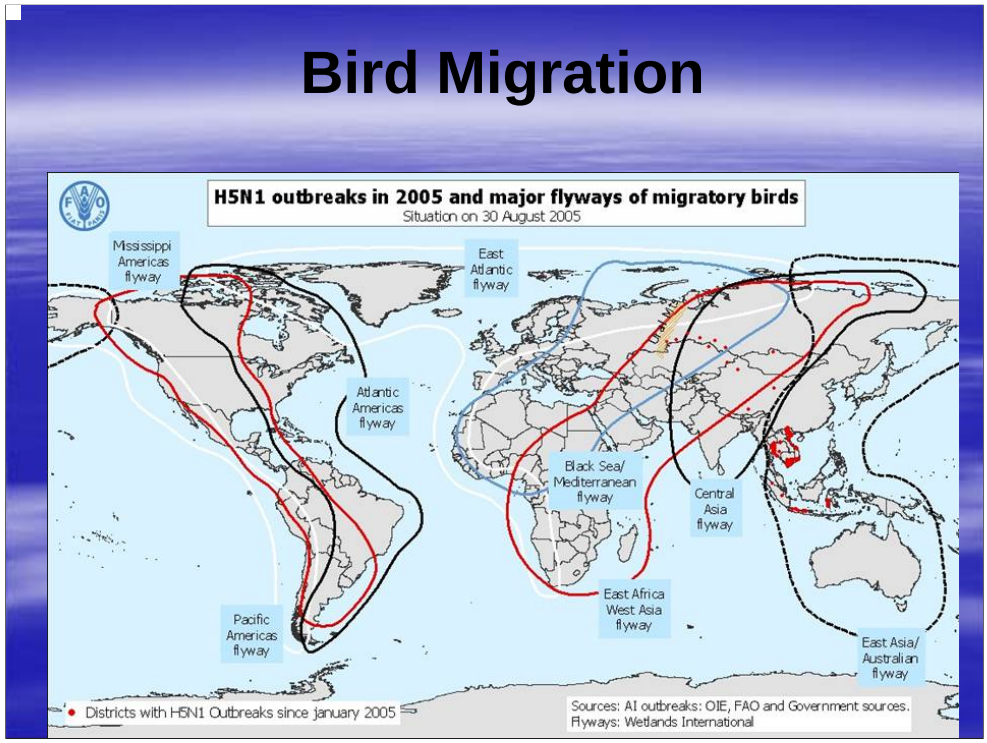
Let's first talk about how it is spread from bird to bird. These are the ways that the virus is spreading among the bird population:

1. Wild bird migration, especially of shore birds, has become the typical route for bird to bird transmission.

2. Live poultry markets, feed and bedding has also spread the virus between birds with contaminated fecal matter contained in the/on the bedding, feathers and feed. Live poultry markets harbor huge amounts of bacteria and viruses and are very unclean.

3. Lastly, human movement can transplant tainted feces, feathers or bedding through shoes, personal contact, etc. to another healthy farm, barn or cage where birds can contract the virus.

Bird Migration



According to the World Health Organization, which is the United Nations special agency on health, wild birds are a reservoir for the virus and have helped it spread from country to country. In Europe, the only outbreaks among birds have been in wild migratory birds. However, in Asia and other surrounding countries, outbreaks have occurred in both wild migratory bird populations and domestic poultry primarily due to the use of live poultry markets.

This map demonstrates the routes that wild migratory birds take globally. The concentrated areas in red display outbreaks of the Avian Influenza. Scientists in the United States have concentrated efforts on the pacific coast flyways, specifically Alaska and surrounding areas for birds that may contain the virus.

Other Transmission Among Birds

- Virus can spread in crowded, unsanitary live poultry markets-common in Asia
- Poultry trade among farms
  - Outbreak in Nigeria probably occurred from importation of live chicks from China
- Virus found in bird feces can be spread by bedding straw, cages and feathers

Source: Washington Post (2006), CDC, USDA, National Institutes of Health, World Health Organization, Singapore Health Department

In certain Asian countries it is part of the culture to have open-air, live poultry markets. Chickens and other poultry/fowl have very close contact with other poultry and humans. Butchering practices occur in these markets and can lead to large amounts of bacteria/virus spreading to humans and poultry. Humans moving in and out of these environments also transmit bird feces and bedding and feathers.

How are health officials working to stop the spread?

From Bird to Bird

1. Monitoring and Testing of birds
2. Keeping farm poultry isolated and restricting movement
3. Establishing quarantine zones around infected farms-disinfecting barns where infected poultry have been housed
4. Disinfecting cars and people-restricting human movement in and out of infected areas
5. Vaccinating domestic poultry (controversial)

Source: Washington Post (2006), CDC, USDA, National Institutes of Health, World Health Organization, World Organization for Animal Health, Singapore Health Department

Monitoring and testing of both wild and domestic poultry is part of the US preparation efforts. Testing is occurring in migratory bird flyways (i.e., Alaska, and Pacific). Monitoring is conducted in four areas: live bird markets, commercial flocks, backyard flocks, and migratory bird populations.

In the countries where the deadly H5N1 has been detected, killing or culling domestic poultry flocks has been necessary in order to control the outbreak. However, there is some debate on whether or not this is an effective way of controlling the disease outbreak, as well as if it is ethical to destroy large flocks of birds. To date more than 200 million birds have died or been depopulated from the flu.

Other ways of inhibiting the spread between birds is by keeping healthy birds isolated from infected birds, establishing quarantine zones around farms where an outbreak has occurred and then disinfecting (thoroughly) the barns where infected birds are kept.

Another way to stop the transmission is to thoroughly disinfect cars, people, tractors, farm equipment that have come into contact with infected poultry. Restricting access to the infected farm and/or barn can also help to limit transmission of the virus.

Vaccination of domestic poultry also remains controversial in that it is difficult to determine the difference between vaccinated/infected and vaccinated/non-infected poultry and with the constant movement and trade of poultry the disease could be transported to another country. (Note: It is difficult to identify infected poultry in a vaccinated population.)

How does it spread from **bird to human**? Handling infected birds

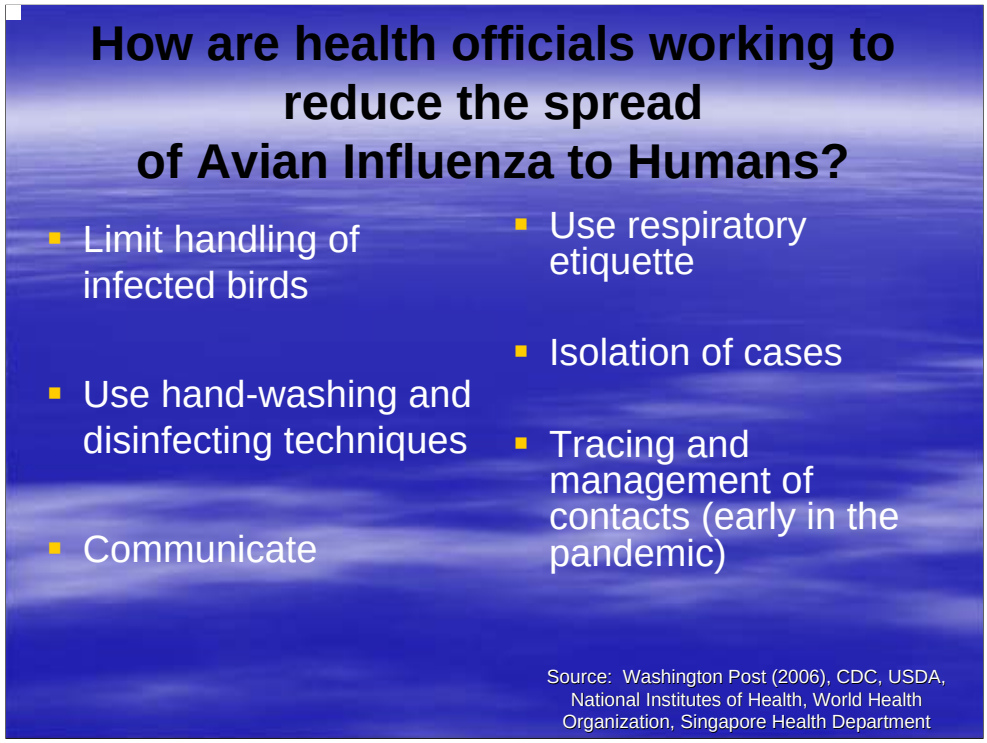
- Close contact with infected birds can result in becoming sick
- Some risky activities:
  - Slaughtering birds
  - Plucking and preparing infected chickens

Source: Washington Post (2006), CDC, USDA, National Institutes of Health, World Health Organization, Singapore Health Department

It is rare for birds to infect humans. In the cases where humans have become infected, the virus was transmitted through close contact with infected birds or direct contact with infected feces or excretion. To date, the Centers for Disease Control states that the spread of H5N1, the current strain of bird flu, from human to human has been rare, limited, and unsustained.

The mode of transmission from bird to human has primarily been through close contact with infected birds. Close contact can consist but is not limited to: live bird markets, poultry farms, farmers with interaction with infected chickens, and through cultural rituals (such as consumption of raw or uncooked meat/drinking of duck blood/handling fighting cocks, as well as, plucking and preparing diseased birds).

Precautions should be taken at all times when handling, plucking or preparing infected poultry.



For the most part, limiting the handling of known infected birds and then following any contact with thorough hand-washing techniques can help to reduce the spread of the virus from bird to human. However, other actions can help to reduce the spread as well. Communication to the specific audience of poultry farmers, wildlife enthusiasts and the general public on the topic of Avian Flu, proper hygiene, hand-washing techniques and respiratory etiquette can reinforce prior actions. If there are human cases present they should be isolated, traced and managed throughout their entire period of infection, as well as any contact with healthy persons noted.

This is a good time to present an interactive activity on how viruses are transmitted. (See interactive activity suggestions).

Avian Influenza vs. Human Pandemic Influenza

- Avian influenza (or bird flu) occurs in birds but not normally in people
- Pandemic influenza occurs if a bird flu virus jumps species to infect people and then becomes easily transmitted between people worldwide

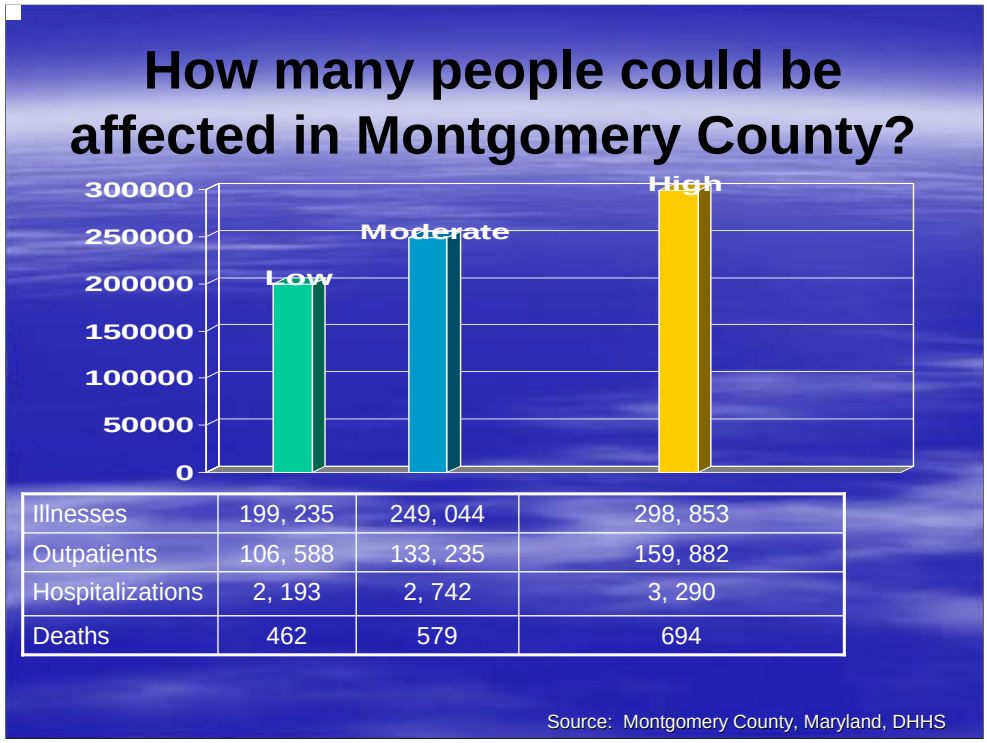
Source: Washington Post (2006), CDC, USDA, National Institutes of Health, World Health Organization, Singapore Health Department

Now we are going to shift the thinking from focusing solely on birds to what and how it happens when an Avian Flu virus becomes a human pandemic influenza virus.

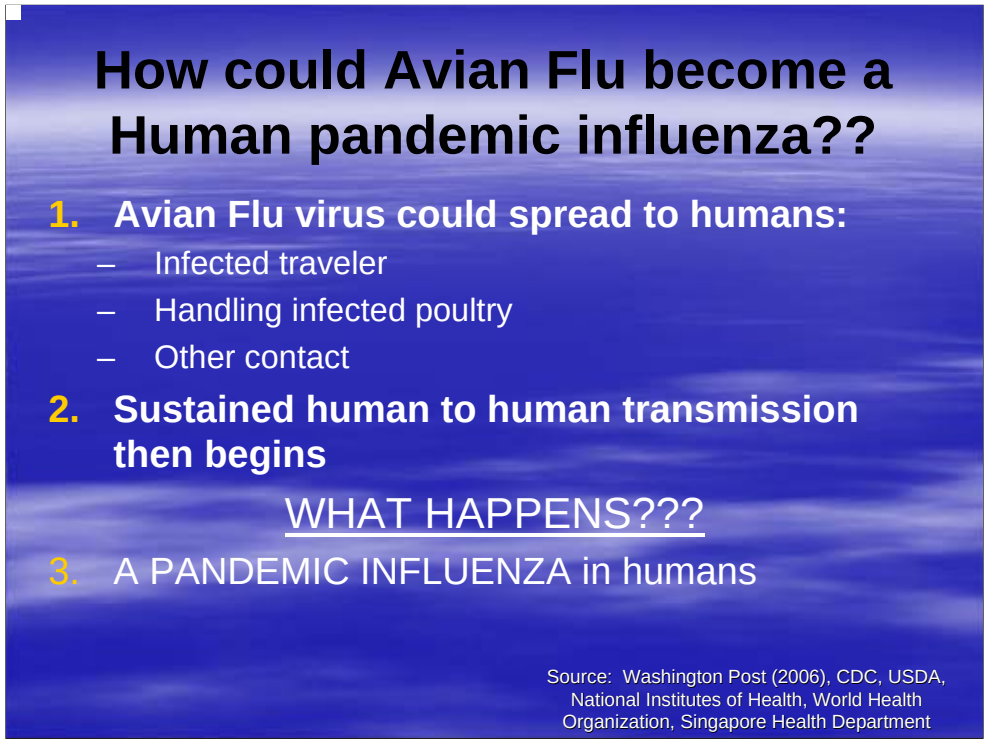
Characteristics	Pandemic Severity Index				
	Category 1	Category 2	Category 3	Category 4	Category 5
Case Fatality Ratio (percentage)	<0.1	0.1 - <0.5	0.5 - <1.0	1.0 - <2.0	≥ 2.0
Excess Death Rate (per 100,000)	<30	30 - <150	150 - <300	300 - <600	≥600
Illness Rate (percentage of the population)	20 - 40	20 - 40	20 - 40	20 - 40	20 - 40
Potential Number of Deaths (based on 2006 U.S. population)	<90,000	90,000-<450,000	450,000-<900,000	900,000-<1.8 million	≥1.8 million
20th Century U.S. Experience	Seasonal Influenza (Illness rate 5-20%)	1957, 1968 Pandemic	None	None	1918 Pandemic

The Pandemic Severity Index (PSI) is the new phrase used by the CDC to anticipate morbidity and mortality and to help with planning mitigation strategies. It is a tool to be used for community planning based on scenario to guide pre pandemic planning efforts.

Above chart: Category 1 would illustrate the normal seasonal influenza. All the way up to the worst case scenario of Category 5, similar to the 1918 flu.



A pandemic could be very mild where only about 25% of the population may get the flu or it could be very severe where maybe 45% get the flu. This is how it could look in Montgomery County, Maryland.

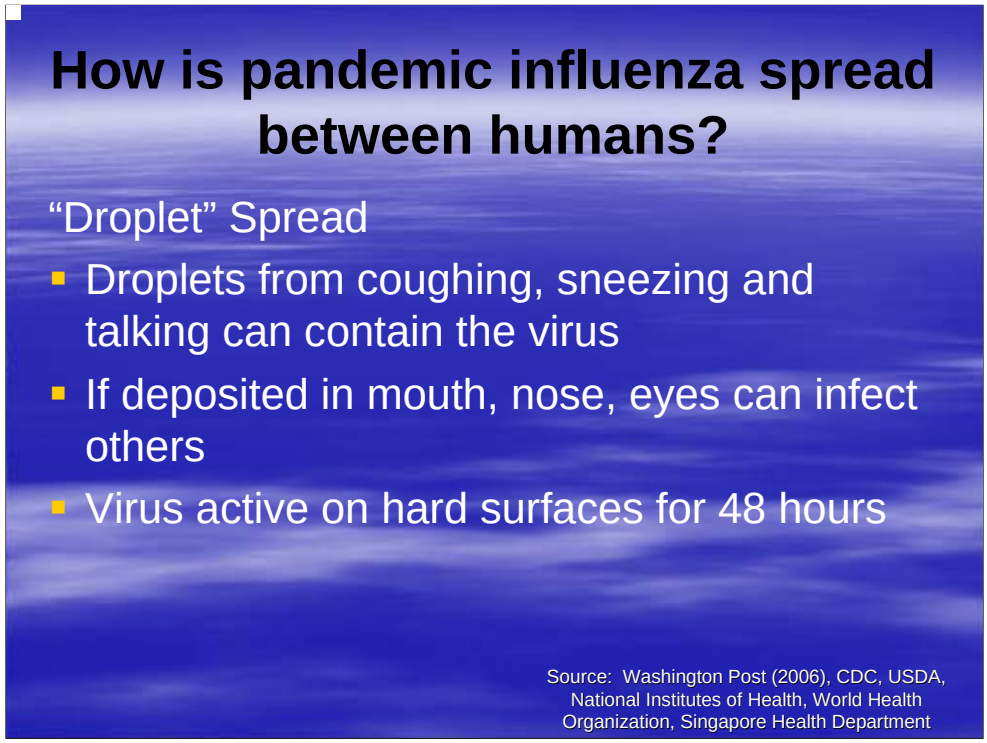


A flu pandemic occurs when a new virus appears and people have not been exposed to it before. The new virus can spread as easily as normal seasonal flu, through coughing and sneezing. Since the virus is new, the human immune system will have no pre-existing immunity against it. People who are infected by the new virus may become more seriously ill than if they have the normal seasonal flu.

A pandemic occurs in waves, with each wave having the ability to last for several weeks, with the possibility of widespread infections in each wave simultaneously in different parts of the world. This will cause disruptions to daily life and essential services, as well as high levels of illness, death, social disruption and economic loss.

Scientists are concerned that the current Avian Flu virus may mutate into a new virus jumps species and then spread easily among humans, resulting in a flu pandemic.

In the United States this will likely occur from an infected traveler who has the normal seasonal flu and obtains the Avian Flu (H5N1) strain. This begins the human-to-human transmission with the opportunity for it to build and become a pandemic influenza.



Health officials think that pandemic influenza could act very similar to the seasonal flu in the way it spreads among humans. As humans we typically expel large droplets when we sneeze, cough, talk or even sing. It can also spread when a person touches respiratory droplets from another person and then proceeds to touch his or her own mouth or nose. Studies on seasonal flu show that most healthy adults infected with the virus may be able to infect others one day before becoming sick and for 5 days after they first develop symptoms. When a person has begun to present symptoms they typically have already been contagious for 1-3 days.

How do we reduce the spread **from Human to Human?**

- There have been no official reported cases of human to human spread of bird virus
- Only a matter of time before:
  - US has first case of bird to human
- Measures to increase "social distance" (such as closing schools, only essential employees working, and canceling mass gatherings)
- Limiting spread of infection by domestic and international travel

Source: Washington Post (2006), CDC, USDA, National Institutes of Health, World Health Organization, Singapore Health Department

•Begin to practice sick etiquette now!

•Be Hygienic! Washing hands thoroughly and properly often with soap and water. Keep your home and common area clean and free of pests. Educate family members especially children and the elderly about the importance of good hygiene.

•Be Socially Responsible! Use good coughing and sneezing etiquette. Do not litter! If your child does not feel well or has a fever do not send them to school. Manage your sickness the right way.

If you are sick-seek medical attention.

Give accurate information to your doctor regarding travel and contact with any persons who have had the flu.

Avoid going to work, school, social events or crowded places until you have recovered. Stay at home!

Minimize contact with others--Do not share bedding, clothing or utensils with others. If possible try and use a different bathroom than others.

Check your body temperature regularly.

Drink enough water to keep your body hydrated and eat nutritious, easily digestible foods.

•Take special precautions if you are caring for infected persons!

Consider wearing a mask, if public health officials suggest to do so.

After contact with infected person or the environment in which they are receiving care-WASH YOUR HANDS!

Isolate the infected person in a separate room/area.

Sleep in another room or area

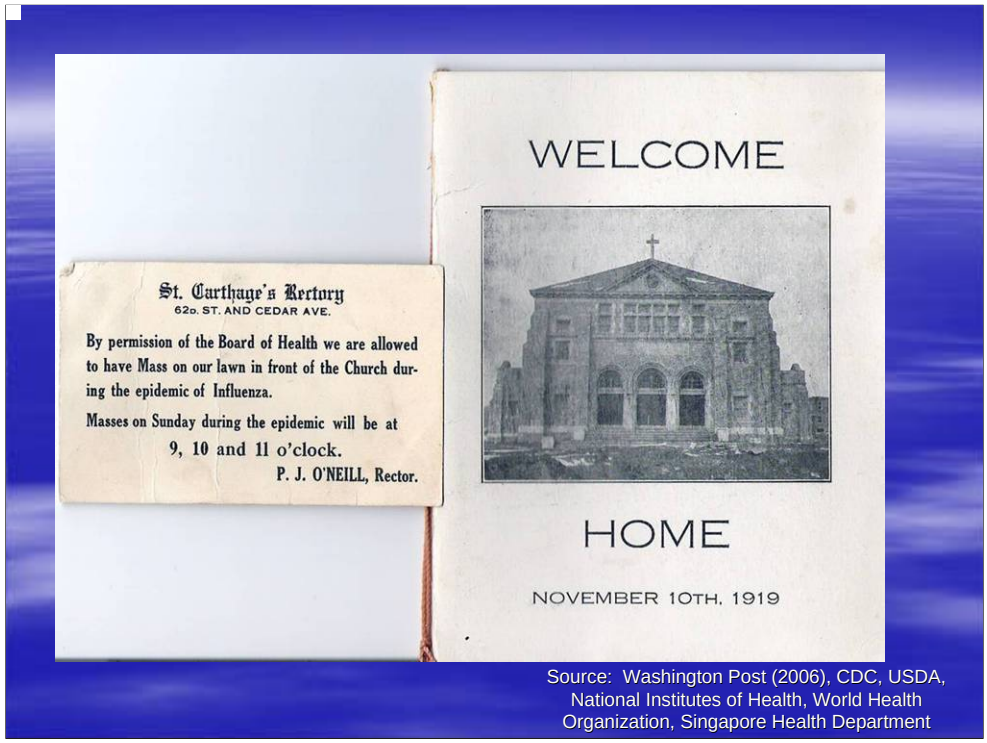
Limit contact with the infected person. Designate one person as the caregiver.

Place used tissues in a bag before disposing.

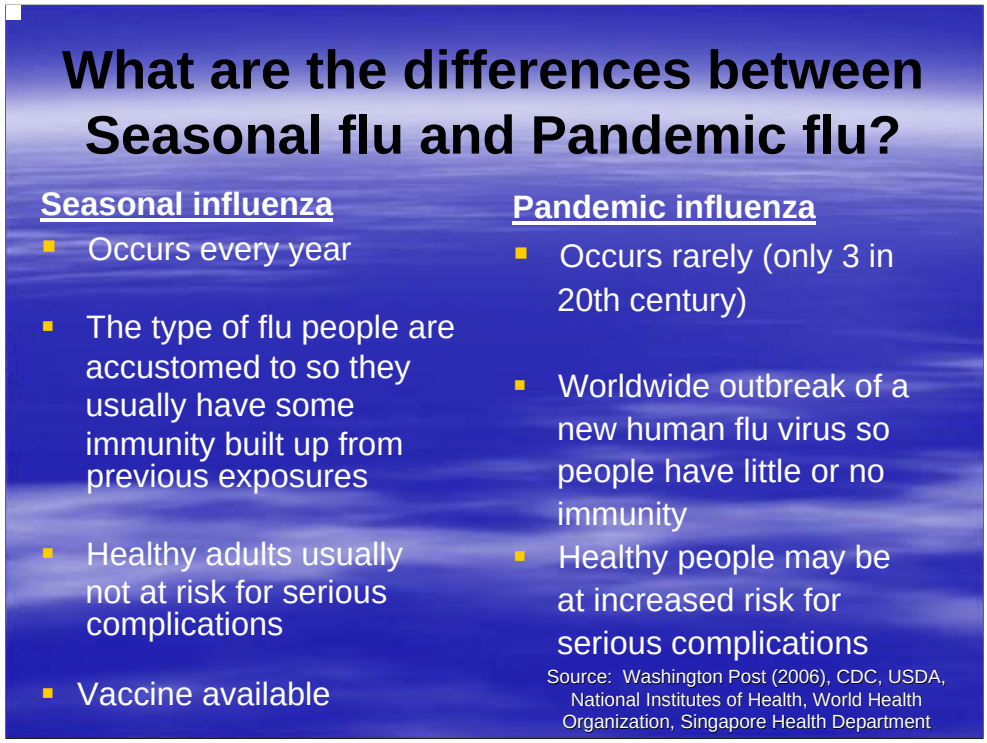
Ensure that you stock up on essential medicines and medical supplies.

•Be Healthy! Build up your immunity by having a balanced diet, exercising regularly, maintaining a smoke-free environment and learning to rest and relax. Manage your stress and protect your children. Stock up on essential food and medical supplies.

This is another break to integrate an interactive activity (suggestion: Use A Day in the Life Of…)

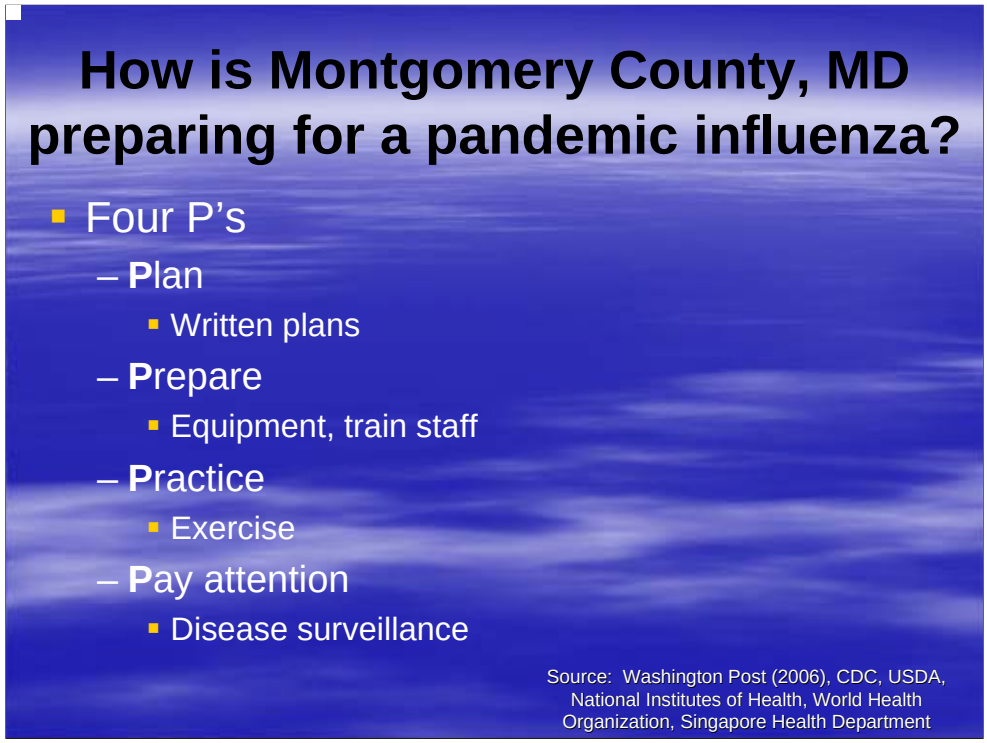


One example from the 1918 pandemic influenza when mass gatherings were canceled to enact social distancing measures.



Normal seasonal flu outbreaks are caused by a specific flu virus every year. This virus is typically more severe than the common cold and can sometimes lead to pneumonia or even death (especially in the elderly population and those with severely low immune systems). Typically, there are not many deaths because most healthy persons have built up some type of immunity from previous years of being exposed to the flu virus. For information on getting a seasonal flu vaccine, contact Montgomery County Immunization Program at 240-777-1050.

A pandemic influenza occurs rarely and is caused by a new virus where humans have little or no immunity built up. Healthy people may be at an increased risk for serious complications because this group must work, therefore they are out in the environment more, exposing themselves to more people, as well as, holding the belief that they aren't or won't get sick.

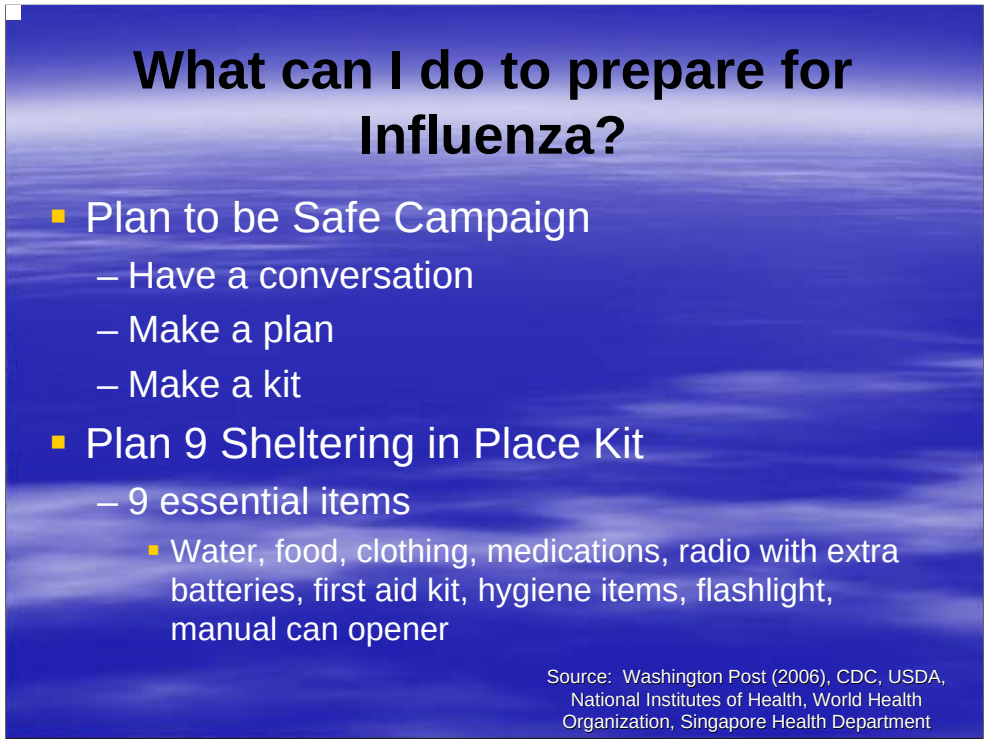


A flu pandemic is likely to affect many areas of life including the depletion of the workforce due to illness and travel restrictions. Contingency plans are being developed to ensure key essential services are maintained during a pandemic flu. A pandemic will also put pressure on health services due to the rising number of patients with flu requiring treatment and the depletion of the medical workforce due to illness and other disruptions. In turn, this will mean delays in dealing with other less urgent medical conditions. Non-medical care would be delayed because of pressure on manpower and resources.

Businesses will also have decreasing workforce numbers with many workers putting in fewer days. More precautions may need to be taken at workplaces which can cause disruptions and inconvenience. The number of customers may drop in numbers, especially for business in the service sector. If a pandemic becomes severe, businesses may have to temporarily suspend operations.

Because of the nature of pandemic flu, (spreads rapidly within closed communities), schools, kindergartens, child care facilities and communal events may need to periodically close to minimize infections.

A pandemic flu may also affect the efficiency of the public transport system due to possible shortage of employees due to illness and absenteeism. In turn, there could be longer waiting times for buses and trains. Allow more travel time and if possible, avoid traveling during peak travel hours, when buses and trains will be crowded.



Located on Montgomery County's website at www.montgomerycountymd.gov and click on emergency preparedness.

For sheltering in place up to 2 to 4 weeks additional items may be needed for infant, elderly, or disabled members of the household. In a Pandemic Influenza situation people may want to think about wearing a mask if:

•They have to go into a crowded situation where other people may be infected and are spreading the illness.

•They take care of a flu patient at home or have other close contact with sick people in a pandemic.

•They have the flu and think they might come in close contact with others.

•They are well and don't expect to have close contact with a sick person, but they need to be in a crowded place.

N95 mask vs. surgical mask

•N95 is a thicker mask than a surgical mask that is designed to fit tightly to the face and block at least 95% of small airborne particles.

•Surgical mask are simple face masks designed to fit across the nose and mouth and catch large respiratory droplets produced by the wearer and offer some protection against others' secretions.

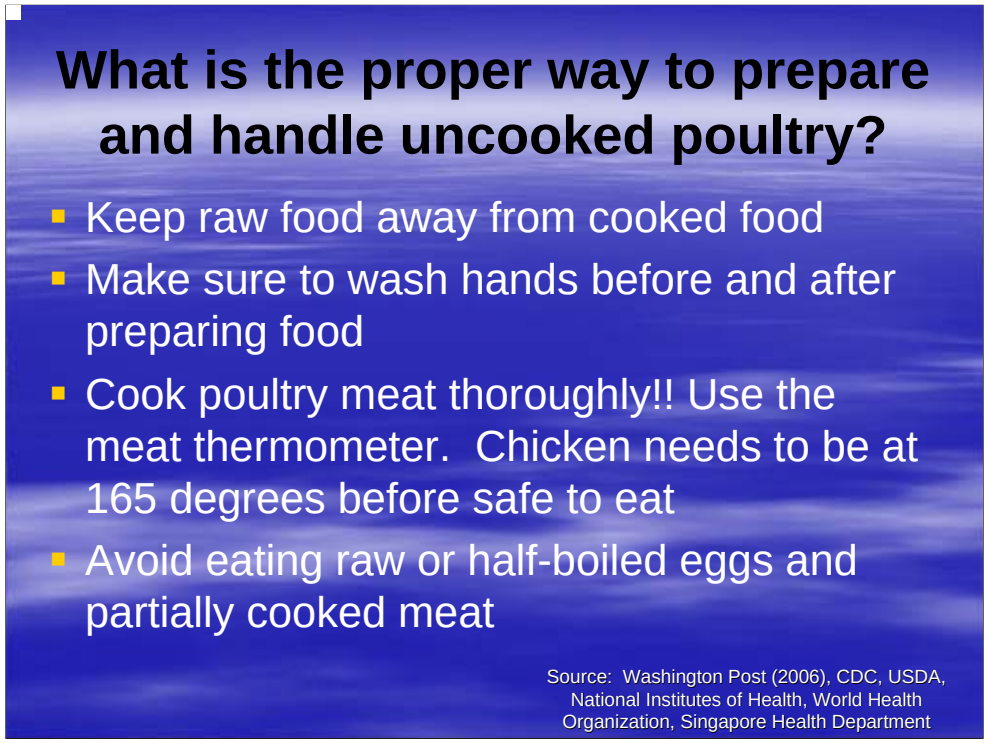
This is another break to integrate an interactive activity (suggestion: Little Red Hen)

Frequently Asked Questions

Source: Washington Post (2006), CDC, USDA, National Institutes of Health, World Health Organization, Singapore Health Department

Poultry and eggs available in the grocery store in the United States are safe to eat. There is no evidence that bird flu can be spread through the consumption of properly cooked poultry and eggs. Consumers are advised to cook poultry thoroughly. Thorough cooking helps to kill any germs that could be present in food.

It is also safe to handle raw poultry in the United States as there is a restriction on imports of poultry from countries/regions affected by bird flu. Eggs are also safe to handle, but just as a general health practice, wash your hands thoroughly after handling eggs that are contaminated with fecal matter.



This is the same preparation currently used for preparing poultry and can help prevent other diseases. Keeping raw meat away from any cooked food lowers the chance of cooked food obtaining bacteria. Using a meat thermometer provides a reliable gauge for when chicken is considered cooked. DO NOT RELY on cooking times as there are too many variables that could alter the length of time chicken has to cook. Keep in mind that in not just a pandemic influenza situation, anyone should avoid eating raw or half-boiled eggs and partially cooked meats because of other numerous bacteria's/viruses one can contract.

Handling of pet birds-Avian flu can be spread by wild or migratory birds. Owners of pet birds are advised to take precautionary steps such as keeping their birds in a cage inside to lower the risk of exposure to wild birds. Always wash your hands after touching or handling your pet bird.

Handling dead birds found in public areas. DO NOT TOUCH OR HANDLE DEAD BIRDS FOUND IN PUBLIC AREAS!!

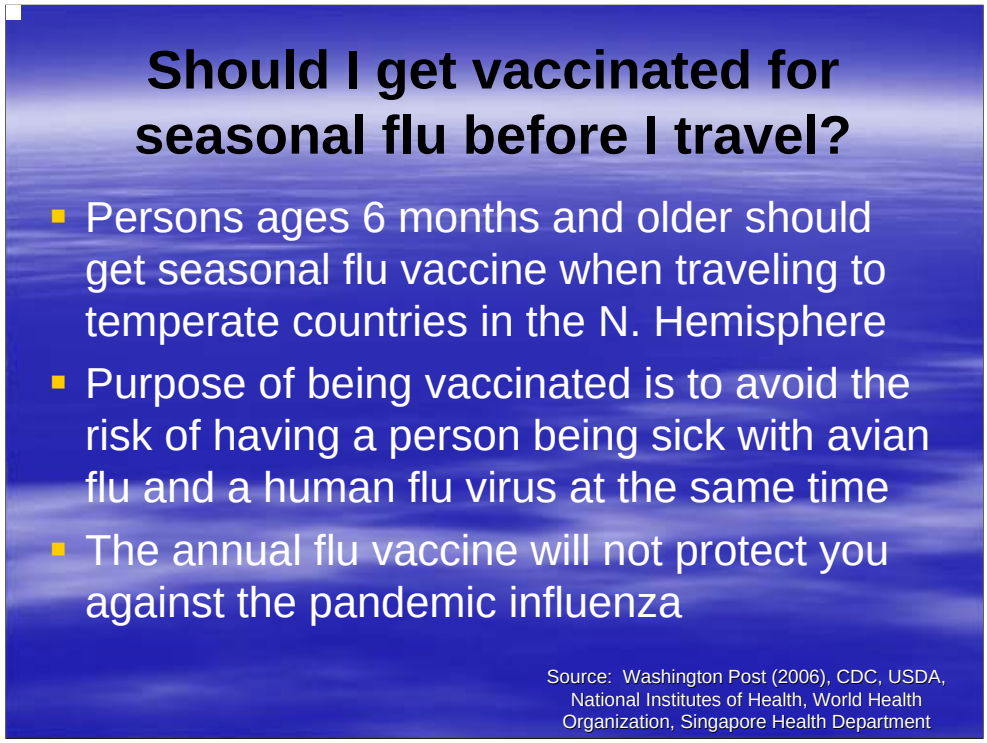
What are the symptoms of avian flu in birds?

- Sudden death
- Lack of energy and appetite
- Swelling of head, eyelids, comb, wattle and legs
- Purple discoloration of the wattle and comb
- Nasal discharge
- Coughing and sneezing
- Diarrhea

Source: Washington Post (2006), CDC, USDA, National Institutes of Health, World Health Organization, Singapore Health Department

Be SMART!! Avoid visiting poultry farms with cases of infected birds or live poultry markets where birds are butchered on site. Practice good hygiene at all times.

Before traveling, check CDC's website for current travel restrictions.



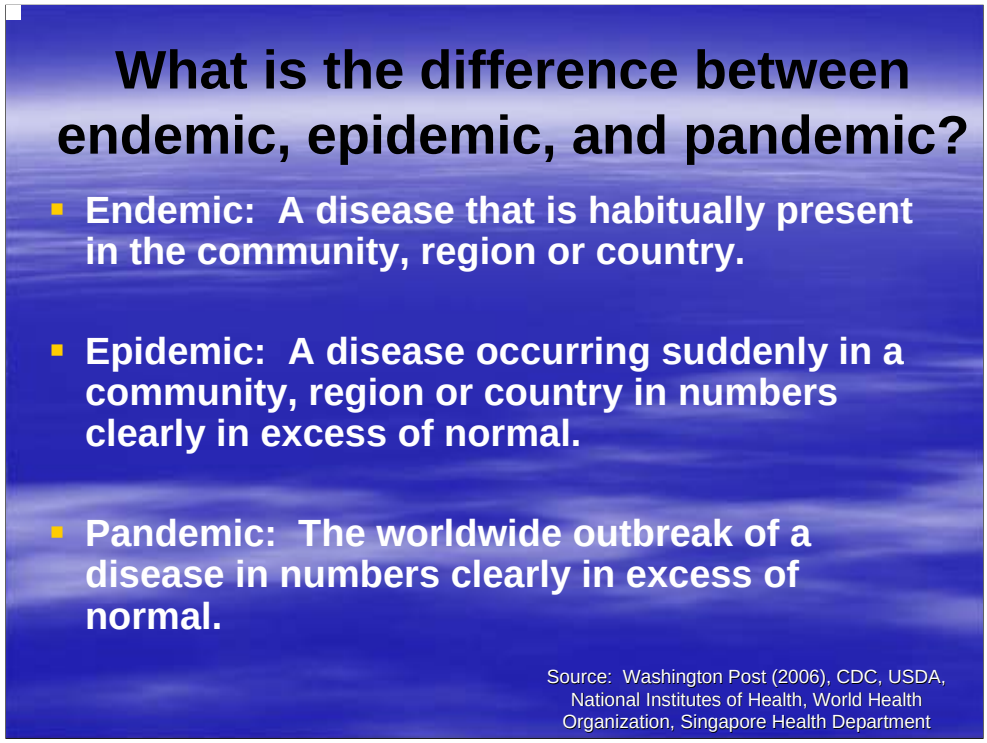
Existing flu vaccines for the circulating strands of the seasonal flu virus offer no protection from a new flu pandemic virus. However, the World Health Organization has recommend that people exposed to infected chickens or farms under suspicion be vaccinated with the seasonal flu vaccine. This is to avoid situations where people may be infected with both seasonal flu and the Avian Flu at the same time which could allow the flu virus to mutate and acquire the ability to transmit between humans.

Persons should vaccinate against seasonal flu viruses if you are in a high-risk group. The high risk groups are:

- The elderly age 65 years and older
- Persons with chronic heart and lung diseases
- Persons with diabetes or renal diseases
- Children and teenagers aged 6 months to 18 years who are receiving long-term aspirin therapy and women in the second or third
- trimester of pregnancy

Observe simple precautions when traveling:

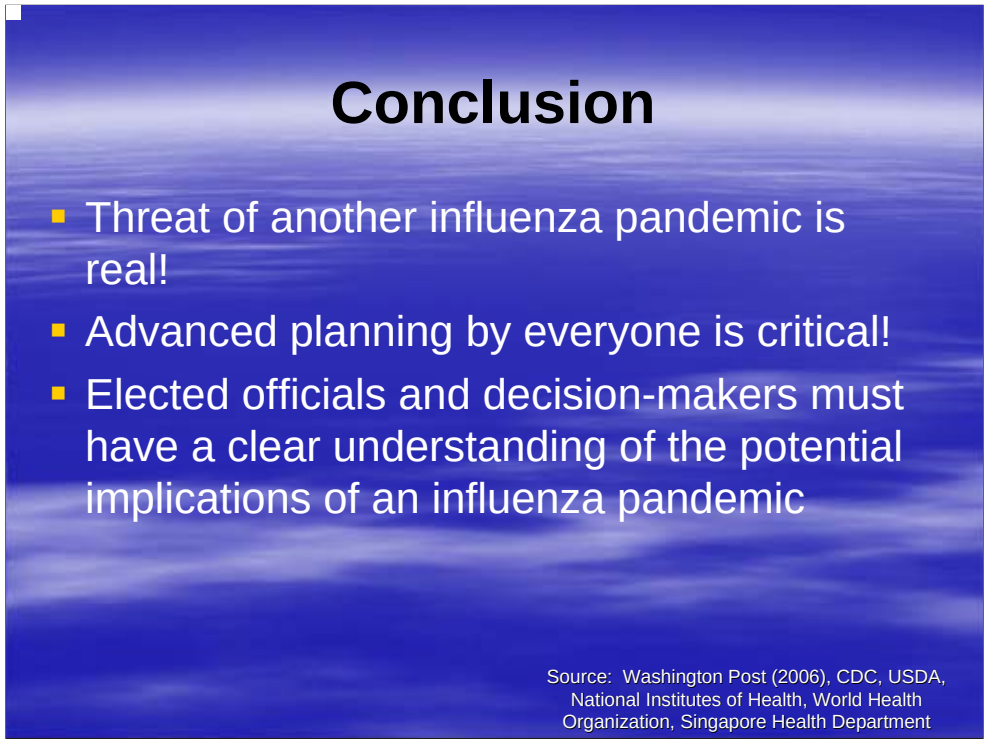
- Avoid contact with poultry and refrain from visiting commercial or backyard poultry farms or markets selling live birds
- Avoid handling or eating raw or undercooked poultry or foods containing poultry (eggs)
- Avoid close contact with anyone who appears unwell
- Vaccinate yourself against the seasonal flu virus
- Seek medical attention early if you develop flu-like symptoms



Endemic would be for example flu in one nursing home in the county.

Epidemic would be if flu then spread to many nursing homes in the county.

Pandemic would be if the flu spread to all nursing homes worldwide.



It is difficult to predict when a flu pandemic will happen, so we all need to be ready and prepared. Extensive preparations have been undertaken by all Government agencies. The efforts of all Americans and residents will be needed to minimize the effects of the pandemic should it occur in the United States.

First Case of “Bird Flu” in the United States??

Source: Washington Post (2006), CDC, USDA, National Institutes of Health, World Health Organization, Singapore Health Department

Questions

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Source: Washington Post (2006), CDC, USDA, National Institutes of Health, World Health Organization, Singapore Health Department

Resources

- For more information check out the following websites:
- www.pandemicflu.gov
- www.avianflu.gov
- www.who.int/en/
- www.usda.gov

Source: Washington Post (2006), CDC, USDA, National Institutes of Health, World Health Organization, Singapore Health Department

For more information about this guide please go to:

www.montgomerycountymd.gov/apc
and click on the link to Program Deliverables
or call the Emergency Preparedness and Response Program main line at
240-777-3038

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